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ABSTRACT

A model designed to aid faculty in course development and revision is presented and discussed as it operates at the Community College of Philadelphia. Several guiding principles of instructional development are presented, stressing the importance of a positive approach and the view of instructional development as a mode of communication between students, faculty, administration, and others. A schematic model is presented to show the place of course development within a total program of staff development. The complete Course Development Model contains 21 sequential steps divided into six categories: Analyze, Design, Search, Develop, Implement, and Assess. The first eight steps, focusing primarily on the written development of course goals and objectives, a course outline, and a bibliography, constitute the minimum level of acceptable course development. Several criteria are used by the Instructional Development Specialists and faculty members to evaluate the written course proposals. These are discussed as are various techniques used by the Specialists to help faculty with constructing objectives (Harmes' four-step method is one) and with improving their technical writing. Problems often identified in technical writing include: inappropriate use of "the," "be able to," "at least," and action verbs; lack of specificity and content description; undefined modifiers; and undefined or inappropriate relationship of task to criteria. (DP)

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SUCCESSFUL COURSE REVISION AT THE COMMUNITY COLLEGE OF PHILADELPHIA

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SUCCESSFUL COURSE REVISION AT COMMUNITY COLLEGE OF PHILADELPHIA

Course revision in our institution most often represents taking a course that has been taught intuitively by our faculty members and explicating it fully, in writing, for the first time. This written statement is then subjected to the rigors of departmental and student judgment. Historically, the demands of constructing a defensible written public document representing a given course has been so great that courses have often been shrouded in nebulous statements that offer no measurability rather than committed to specifics which would receive almost certain criticism. Our course revisions of the last year defy that mode and meet rigorous demands with measurable statements. We make no claim that our measurable statements represent the only measurable statements for a given course but, only, that they represent our best judgment as being the most logical, correct, and meaningful statements for the course. We expect that subsequent faculty and student input will undoubtedly lead to logical changes in the future and to further revision.

It is important to note that our beginning level of course revision relates only to (1) philosophy, (2) goals, (3) statements of objectives, and (4) outline of content and not to any particular teaching styles or methodologies. We believe these four elements are independent of teaching styles and methodologies and should not be included in the early

designing of a course. Later, we will incorporate recommended teaching styles and methodologies, but only as optional techniques.

Our approach in instructional development is to: 1, foster positiveness toward the public act of developing instruction; 2, view instructional development as a mode of communication between students, faculty, administration and others; 3, develop skills to cope with the increased size of post-secondary institutions; 4, develop skills in androgogy due to the ever-increased average age of our students; 5, recognize the progressive growth of instructional development during the last eighty (80) years; and 6, explain instructional development in relation to staff and faculty development. We have adapted a Course Development Model (Figure 2, page 14A), specified levels of course writing,[1] and specified levels of objective writing (described later in this paper). Also, in this paper, we have stated the role of Instructional Development Specialists at our College. Lastly, we believe we are just beginning to build a sound and solid process to explicate the courses we provide in the education of our students.

FOSTERING POSITIVENESS

The National Film Board of Canada produced a film[2] about ten years ago which began with students walking on

the grounds of a school campus. Viewing the film as a casual observer: one notices the tall people and short people, the different minorities, the different sexes, the pretty and ugly, the frumpy and the exotic, but as the film notes, virtually no one focuses on the human commonalities. Physically, we are incredibly similar to one another with only variations of our similarness. Yet we focus so intensely on our differences, we often overlook our commonalities. The usual focus on differences, especially negative differences, tends to develop an atmosphere where people not only don't share with one another but ultimately don't even trust one another.

The We-Agree Workshop[3] cites the following story: During World War II, the Japanese Armed Forces formed prisoner of war camps in which they simply imprisoned the American and Allied soldiers and many of those imprisoned soldiers escaped from those camps. During the Korean conflict, the North Koreans didn't simply imprison our troops, they held counseling sessions where our soldiers were encouraged to share all of their gripes. They griped about the prison conditions at first but eventually the gripes included negative comments about their colleagues, their families, and their country. With the atmosphere the North Koreans created in their prisons, they had virtually no escapees from their prisons because the prisoners didn't trust each

other enough to try to escape. They knew all the negative weaknesses of each other and none of the positive strengths.

There are several values clarification exercises[4] which repeatedly demonstrate that persons working together will make better decisions than those who don't work together. The challenges we face, with older students who probably won't view us as wise and trusted mentors, with students whose personal aspirations are below our own personal aspirations, and with students who have equated attendance in college with automatically gaining a college education will require all of us to work together if we want to effectively educate all of the students that we have allowed to enroll in our schools. Obviously, we won't succeed with every student but we do have the obligation to <u>try</u> with every student that we enroll.

A MODE OF COMMUNICATION

Lortie[5] says in his recent sociological study of school teachers that despite lengthy preparation for the role that there is very little sharing of "teaching" expertise. Most teachers feel they learned to teach only after they were actually teaching. He says the "absence of a common technical vocabulary" limits the effective sharing of information. We feel that written course development creates a common technical vocabulary and is an important step in

developing an atmosphere where colleagues can share with one another. We believe shared course development is an important step in the total process of facilitating learning for students.

Instructional development as it is related to abstracting subject matter content and specifying objectives will be useful to students as they will know what is required of them, to faculty in selecting and implementing instructional strategies plus assessing the effectiveness of their selection and implementation, and to administration in communicating to other institutions what it is our students have learned and why we are a viable institution. In a sense, course development is the development of a tool of communication for those within, and outside, of the institution. The clarity of this tool will have a direct relationship as to whether or not all work together with understanding in harmony, or continue with nebulous efforts which foster unnecessary conflict and mistrust: student vs. faculty; student vs. administration; faculty vs. administration; and everyone else vs. the institution.

INCREASED SIZE OF POST-SECONDARY INSTITUTIONS

Communication is needed now more than ever as our colleges are not cozy campuses isolated from the world but multi-million dollar institutions with massive numbers

of students and large numbers of faculty. The number of students and faculty in higher education in the United States has almost tripled in the last twenty years.[6] More than ever, we need to construct tools of communication so that individuals will not be lost in the milieu of our massiveness. Our process of instructional development increases the possibility of treating students as individuals because faculty will agree upon and state content before the semester begins and can focus on whether or not individuals are learning during the semester.

The rapid, almost rampant, growth of post-secondary enrollments have many factors which could be considered reasons. Most of the reasons have little or nothing to do with Bacon's (Francis Bacon, English philosopher, 1561-1626) concept of "entering upon learning to give a true account of the gift of reason for the benefit and use of society."[7] The main set of reasons seem to be these four economic factors: 1, Federal monies were (and are) made available in many different programs to greatly reduce the financial burden of students seeking higher education; 2, the general knowledge that one earns more money during a lifetime of work if one increases the amount of formal education completed;[8] 3, jobs requiring no experience or training have steadily decreased during this entire century and continue to decrease;[9] and 4, the sharp decline in job

opportunities for persons in their late teens and early twenties. These economic factors seem to have encouraged many to continue, or return to school.

This trend is also encouraged by increased admissions to colleges of persons from segments of our society that had not previously sought college experiences. The Community College of Philadelphia, like most community colleges has a very high percentage of students who are the first ever to attend college in their respective families. Many students from these families receive much status by just simply attending college.

ANDROGOGY

Perhaps part of Bacon's concept may be being brought to fruition by community colleges in their response to provide non-programmatic courses for self-improvement, too. Best selling books, like Passages[10] and Erroneous Zones,[11] testify as to the popularity of adults seeking non-credited self-improvement and to the acceptance of the notion that adults do seek to continue to grow. Further, schools are no longer viewed as the domain of the young and immature. The average age of students at the Community College of Philadelphia is over twenty-nine.

The open enrollment policies, central and satellite locations, relatively low cost tuitions, two-year terminal

vocational training programs, and two-year transfer programs of the Community College of Philadelphia and other community colleges are major features which promoted their rapid growth. Community College of Philadelphia enrolled 1,200 students when it opened in September, 1965 and now has a total enrollment of over 13,000.

PROGRESSIVE GROWTH OF INSTRUCTIONAL DEVELOPMENT

Some view the history of education and instructional development as a never-ending cycle that simply wavers back and forth between instructional methodologies as ominously as the pendulum in the Poe short story (those persons probably view school as the "pits," too). Our view is different as we believe that instructional development has progressed linearly at a rapid pace in the last eighty years. Further, we believe speed of the progression will increase over the next eighty years. The "state of the art" has improved as our understandings have increased.

We heard a speaker start with this comment once: "Since human behavior was discovered in 1938....." We don't propose that the history of education or instructional development actually began about eighty years ago but we do consider the time of the development of the Seven Cardinal Principles as a reasonable starting place for our purposes. From the early 1890's until 1917, the

Commission of the Reorganization of Secondary Education met to develop the broad educational goals for American education. They published the Seven Cardinal Principles which have received wide acclaim as worthwhile. These statements detailed neither student behavior nor subject matter content but broadly stated the purposes of American education. Forty years ago, the Eight-Year Study under the direction of Ralph Tyler of the Progressive Education Association developed a set of statements which were broad in content and for the first time, the statements represented student behavior. Twenty-five years ago, the Mid-Century Committee on Outcomes in Elementary Education carried the Eight-Year Study a step further by developing a set of content statements in terms of student behavior.

Twenty-two year ago, Bloom[12] and others published their classification scheme for cognitive objectives. Eight years afterward, Krathwohl[13] and others published a similar scheme for affective objectives. Two years later, Simpson[14] developed a scheme for psychomotor objectives. These educational classification schemes represent types of schemes for education like that which Linnaeus (Carolus Linnaeus, Swedish botanist, 1707-1778) offered biology in 1740. These educational schemes will be of greater use when there are masses of objectives developed representing

all the levels of each of the three educational domains.

Twenty years ago, programmed instruction lead to the popularization of "atomized objectives" (term defined on p. 17). These atomized statements seemed to include almost every neural synapse involved in mastering a given skill. Although these objectives were useful for programmmed instruction, they led many to the mistaken notion that all objectives were going to represent only tiny, trifling responses to instruction. Gronlund[15] and Drumheller[16] have written extensively on developing larger, more general objectives. At Community College of Philadelphia, we feel it is important to disregard atomized objectives while organizing instruction and, instead, make use of more comprehensive types of objectives.

The publication of Preparing Instructional Objectives by Mager[17] has probably had the largest single impact on the form of stating instructional objectives. The book states that "task, condition(s), and criterion(a)" are the three parts of an instructional objective. Although originally published in 1962, the book has probably enjoyed its greatest popularity in the late 1960's and early 1970's.

The works of Cohen,[18] Diamond,[19] Berquist and Phillips[20] (just to name a few) have contributed to the current instructional development "state of the art" in post-secondary

education. Major work has also been done at the University of Michigan,[21] San Jose State University,[22] and McGill University.[23] Linkages between instructional development efforts are not refined but many groups are forming to formalize interrelations between instructional development practitioners.

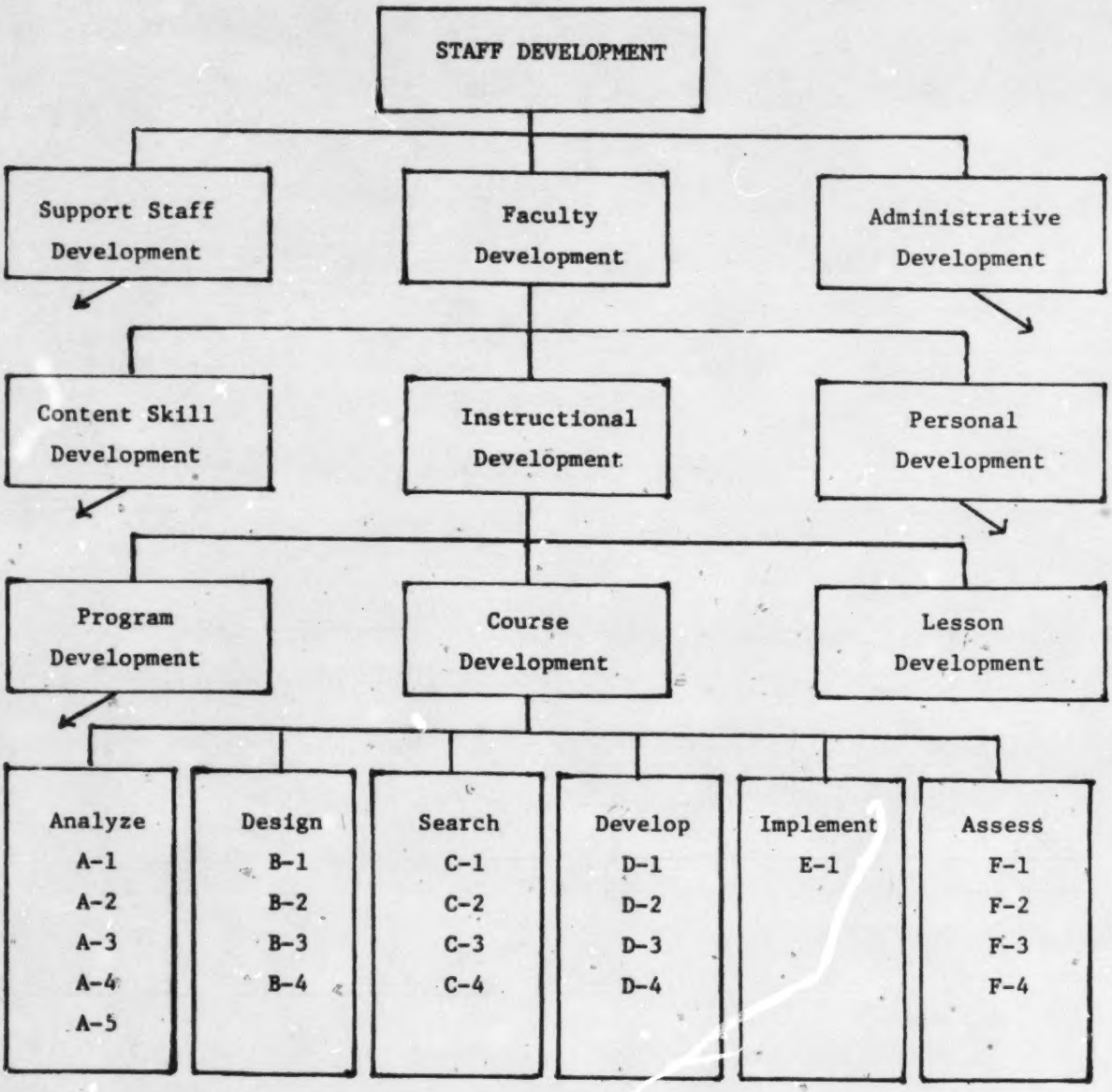
We don't view our success as a pedestal to be admired classically but as a foundation built on the collective creativity and genius of those who shared their knowledge with us. We view instructional development as a developing body of knowledge. Current and future creativity and genius mixed with past creativity and genius will hopefully lead to even greater understanding of instructional development. With greater understanding, we hope to provide more effective instruction to all of our student population.

STAFF, FACULTY, INSTRUCTIONAL, AND COURSE DEVELOPMENT

Our Staff Development Model (Figure 1, page 11a) shows the placement of course development in our institution within our program of staff development as well as it shows the separation of course development from other types of development. We believe that institutional needs change and that staff development is one way to enable employees to remain functional in their jobs after an institutional change. When a job market is stable, an institution cannot

Figure 1

STAFF DEVELOPMENT MODEL



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rely on hiring new help as a practical way of meeting new or changing institutional needs.

All institutional employees are listed under Staff Development on our Staff Development Model. However, the line of our structure toward Course Development does not include Support Staff Development or Administrative Development. The development of support staff and/or administrators is unrelated to course development as their developmental needs are different. Faculty Development is the first branch on our Model toward Course Development.

Faculty Development can be separated into at least three categories: 1, Content Skill Development; 2, Personal Development; and 3, Instructional Development. Content Skill Development pertains to faculty gaining more skill in their content speciality while Personal Development has to do with strengthening or adopting positive personal behaviors and/or diminishing negative personal behaviors (especially as they relate to one's effectiveness on the job). Again, for the purposes of this paper, we have chosen to pursue only those details which pertain to course development. This is not done to diminish the importance of the other types of development but only to place course development in a relative position as to the other types of development. Instructional Development is the next branch on our Model toward Course Development.

SUCCESSFUL COURSE REVISION AT COMMUNITY COLLEGE OF PHILADELPHIA

Instructional Development is divided into three categories which describe its functions. The categories are: 1, Program Development; 2, Course Development, and 3, Lesson Development. Program Development relates to the sequencing of a series of courses to allow a student to complete a body of knowledge. Courses are smaller bodies of knowledge usually sequenced to be completed by a student in three one-hour sessions per week for fifteen weeks (a semester). Courses are normally subsets of programs. Lessons are subsets of courses and are those enabling activities which allow a student to eventually complete a course. The lessons range from several minutes to several hours. Instructional development services at the College have been focused primarily on the development of courses except in workshops.

At Community College of Philadelphia, we have organized in the following way to support faculty instructional development. Media Services focuses primarily on lesson development by providing support with audio, photographic, graphic, film (and many other visuals), and television services. Instructional Development Services and Media Services are combined with the Library to form a single division: the Education Resources Center (ERC). These three services combined offer faculty a wide array of resources to improve instruction for students.

SUCCESSFUL COURSE REVISION AT COMMUNITY COLLEGE OF PHILADELPHIA

The bottom line on the Staff Development Model has six categories: 1, Analyze; 2, Design; 3, Search; 4, Develop; 5, Implement; and 6, Assess. All six of these categories relate to Course Development while only Search (3) and Develop (4) relate to Lesson Development. Lesson Development, too, is beyond the scope of this paper. The rest of this paper will be concerned only with Course Development.

COURSE DEVELOPMENT MODEL

In the beginning of course development (see Figure 2, Page 14a), someone conceives of a course and decides it should be written and entered into the College offerings. The offering may be to enhance an already existing program or to begin a new program. A course is born when a person abstracts a slice of reality and gives it the form of a content area to be studied. This is true whether one is referring to the development of a philosophy course or a dental assistant course. The number of psychomotor objectives and/or the level of cognition may vary but not the creative process of abstracting reality into content to be studied.

The necessity of writing many drafts is stressed from the beginning of interaction between the full-time Instructional Development Specialists (George Beers and myself) at the College and the perspective course developer. Normally a copy of the American Declaration of Independence, as it was

Figure 2

COURSE DEVELOPMENT MODEL

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Analyze	Design	Search	Develop	Implement	Assess
A-1 Abstract reality into a course (Philosophy)	B-1 Develop intermediate performance objectives	C-1 Identify existing instructional activities	D-1 Develop new alternative instructional activities	E-1 Conduct instruction	F-1 Assess effectiveness of individual instructional activities
A-2 Select course learnings (Goals)	B-2 Describe entry level skills required	C-2 Identify existing delivery systems	D-2 Develop new alternative delivery systems		F-2 Assess effectiveness of individual delivery systems
A-3 Develop course level objectives	B-3 Determine scope and sequence (Outline)	C-3 Identify existing instructional materials	D-3 Develop new alternative instructional materials		F-3 Assess effectiveness of individual instructional materials
A-4 Analyze existing courses	B-4 Develop testing strategies		D-4 Develop at least one plan of instruction		F-4 Revise plan of instruction (If needed)
A-5 Select instructional settings					

submitted to Congress by Thomas Jefferson, is handed out and discussed. This copy also contains the editing of Congress as they removed about one-third of the document to reach the form which became the enacted version that has been published ever since. Attempting to write a final draft initially is frustrating and causes many not to write at all. We want our faculty to write courses so we try to ease the process of writing by making many drafts a normal way to develop courses.

Following the written development of the course philosophy, the intended course is structured into goals (non-measurable statements of instructional intent) and into Course Level Objectives (measurable statements of instructional intent). These goals and objectives plus the analysis of existing courses and proposed instructional settings are ascertained by the course developer to be consistent with institutional and programmatic goals and objectives. Once ascertained, the course developer shares the instructional intent with colleagues, the Department Head, the Division Director, and the Provost. These persons are asked to peruse the intended offering to assess its possible inclusion into the College Catalogue and to encourage or discourage further development. If the work is encouraged, the Intermediate Performance Objectives are written. Before continuing with our overall model, we feel

an explanation of our concept of the levels measurable objective development is necessary.

LEVELS OF MEASURABLE OBJECTIVES

Measurable objectives are divided into four levels at our College: 1, Program; 2, Course Level; 3, Intermediate Performance; and 4, Atomized. The following paragraphs are our definitions and explanations of the levels. It is important to note that we define all objectives as "measurable statements of intent" and all goals as "non-measurable statements of intent."

The Program Objectives explicate the skills, knowledge, and attitudes expected of one who successfully completes the Program. These objectives demonstrate the necessity of all the courses required in the Program. As always with objectives, they are written in terms of measurable student outcomes (performance and/or behavior). We recommend the number of Program Objectives in a given program be condensed into five to eight objective statements. Each statement should represent from one to two hundred hours of student time to learn the objective.

The Course Level Objectives should be stated in terms of a lone student outcome and contain the task, condition(s), and criterion(a). They should represent twelve to eighteen hours of student time to learn. Student

learning time includes classroom time, clinical time, homework, etc. There are usually six to eight Course Level Objectives per three semester hour course. These objectives are subsets of Program Objectives.

The Intermediate Performance Objectives should be stated in terms of a lone student outcome and contain the task, condition(s), and criterion(a). They should represent one to three hours of student time to learn. Student learning time includes classroom time, clinical time, homework, etc. There are usually five to seven Intermediate Performance Objectives per Course Level Objective. These objectives are viewed as enabling objectives for the stated Course Level Objective. Totally, a three semester hour course has thirty to fifty Intermediate Performance Objectives.

The Atomized Objectives represent less than ten minutes of instruction. These objectives are useful for designing auto-tutorial or programmed materials for lessons but not too useful in developing courses.

LEVELS OF COURSE DEVELOPMENT

Returning to our Course Development Model (p. 14a), these are the three levels of course development at the Community College of Philadelphia at present:

1. The Minimal Level of acceptable course development for a course proposal constitutes the course design and

objectives. The course design includes: 1, a Statement of Purpose (or Philosophy); 2, Goals; 3, a Course Outline; 4, a suggested bibliography; and 5, a completed Cover Form for the course proposal (names, dates, signatures, etc.). The objectives include the course level objectives and the intermediate performance objectives.

2. At the Intermediate Level of course development, the course design, objectives, and two forms of a final examination are required. Either form of the final examination should be acceptable for a pretest and both tests should be directly related to all of the Course Level Objectives.
3. The Fully Developed Level contains all of the preceding and has at least two suggested learning activities for each of the Intermediate Performance Objectives. With full-time faculty constructing objectives, developing tests, and suggesting activities; part-time instructors will be gaining the experience and direction from our full-time faculty to provide better and more consistent instruction for our students.

You will note that the right half of our Model (p. 14a) was not included in our levels of course proposal requirements. We feel that half of our Model represents a specificity of

services that has little generalizability from faculty member to faculty member. When we are involved in those services, we mainly catalog the faculty/student experiences or encourage the cataloging of those experiences by faculty so that other faculty might benefit from the experience. Someday we may end our reliance on intuition as the primary source of information and direction for selecting activities, delivery systems, and materials to conduct instruction but until we have better known ways to make these selections, we will (and must) continue to rely on intuition. Research shows no particular positive correlations between the interaction of these three: 1, a given student; 2, a given body of knowledge; and 3, a given treatment (selected activities).[24] However, a questionnaire completed by six thousand instructors in Florida seemed to indicate that their description of an outstanding instructor was one "who (could) establish and sustain cordial, disciplined, and work-eliciting relationships with students."[25] We need to know much more yet.

We feel there is so much work to do in meeting our minimal course development requirements that stretching our efforts to the lesson (treatment or right) side of our course development model is more than we can realistically accomplish at this time. We do work with faculty who are interested in developing more than our minimal standards but

we focus most of our time and efforts on developing a broad base of courses developed to the minimal level.

Of course, having a course development model and course development requirements are not enough to bring about success. The functional role of the Instructional Development Specialists is very important. George Beers and I peruse all of the drafts submitted to us and aid the faculty with the technical writing of their documents. We instruct those faculty that need or desire instruction in course development and try to provide encouragement to all faculty who want to improve their instruction. Our role is to facilitate the development of instruction by faculty for their students. We provide internal and/or external consultative services, group workshops, self-instructional materials, and readings in our efforts with faculty. The college has published a handbook to provide specific written direction to faculty interested in developing courses.

We encourage faculty to get that first draft to us as soon as possible. When we receive this draft, we peruse it and begin our process of asking questions such as:

1. Did you describe what you believe about the course in your philosophy statement?

   We normally try to keep the philosophy statement to about two or three paragraphs.

2. Are your stated goals representative of your philosophical statement?

   We normally try to keep the goals to a limit of six-to-eight.

3. Is each objective, as stated, more appropriate for lesson development, course development, program development, or another level of construction?

   We develop the notion of Course Level and Intermediate Performance Objectives as the only levels of construction necessary for developing a course.

4. Is each objective, as stated, accurate in its statement about the knowledge of the content area?

   We encourage faculty to engage a knowledgeable colleague to assist in the assessment of writing for content accuracy. Occasionally, writers omit important content considerations due to writing pressures.

5. Is each objective, as stated, appropriate for the targeted audience identified within the time frames of the course being developed?

   We encourage faculty to engage a knowledgeable colleague to assess this appropriateness, too.

6. Is each objective, as stated, appropriately placed in the sequence of instruction?

   Again, the encouragement to enlist the aid of a colleague is promoted.

7. Is each objective, as stated, written well technically? There are two primary roles for us at this point: 1, we review the parts of a measurable objective as described by Mager; and 2, we focus on technical writing considerations which help to reduce ambiguity. Technical writing considerations are described on pp. 25-32 of this paper.

HARMES FOUR-STEP METHOD FOR CONSTRUCTING OBJECTIVES

With regard to getting faculty started in the process of constructing objectives, we like the method published by Harold Harmes. At Florida Atlantic University, he published a four-step method for constructing objectives.[26] He advocated that one should state the instructional intention non-behaviorally in the first step and then formulate that statement with a behavioral verb. This should be followed with the addition of defined conditions to the behaviorized statement. Lastly, one should add performance standards to the statement.

Here is an example of the process.

After losing a basketball game by a lopsided score, the fledgling coach analyzed the game. He remembered that the entire game had been played on his team's defensive end of the court. He realized that his team could never win a game if they didn't learn to bring the ball to the other end of

the court. So he stated his objective non-behaviorally (step one): "I want each player to move the basketball quickly from one end of the court to the other."

The coach knew that the most effective way to move a basketball from one end of the court to the other during a game was by passing the ball. He focused on the passer, first. He behaviorized his statement with an action verb (step two): "The player will pass the ball."

Being skilled in Harmes Four-Step Method, he reflected on whether or not there were any special conditions. His reflections caused him to think of two: 1, passing the ball would be of little value if the size of the ball varied from that of a regular basketball; and 2, there would be little value passing an object that didn't weigh the same as a regular basketball. Basketballs have not always been the same size or weight so he looked for standards that would be consistent with today. He did not believe the color of the basketball or the material composition of the ball would affect his objective so he added these defined conditions to his task statement (step three): "Given a basketball of NBA regulation size and weight, the player will pass the ball."

(Our experience in constructing objectives at the College is that most objectives have no truly unique conditions. Also, most of the conditions we see stated tend to restrict the

teaching methodology unnecessarily. We recommend that conditions be stated only when they are truly unique as the task should not be restricted by irrelevant conditions. Most of our objectives have no statements of special conditions.)

Continuing with our basketball story, the coach knew the most critical part of his objective statement was the addition of the performance standards (criteria). He knew that this was the part most lacking in the abundance of published objectives. The first criterion he wanted was that the ball should be passed with two hands to a distance of at least twelve feet. He also noticed that many of his players tried to pass the ball without using their entire bodies. He knew that faulty passing was normally caused by improperly passed basketballs and this was caused by the passer and not the receiver. Receivers often lose the ball for their teams because the ball is passed to their feet or behind them causing them to take illegal steps which forfeits the ball to the other team. He knew that players must extend their arms forward in such a way that their thumbs would be pointing to the floor when they were passing or shooting a basketball. This extension of the arms and downward pointing of the thumbs provides a regular release every time the passer passes the basketball. Further, he

knew that greater accuracy was achieved if the index fingers were pointing at the intended target after the act of passing. So he completed his objective as follows (step four): "Given a basketball of NBA regulation size and weight, the player will pass the ball. To be rated as acceptable, the pass must be a two-handed chest pass of at least twelve feet. The player must take one step forward in the act of passing and the ball must arrive chest high to the receiver. Further, upon completion of the passing, the player must have both arms extended forward, both thumbs pointing to the floor, and both index fingers pointing to the chest of the receiver."

We hope the formulation of this basketball objective communicates several ideas. You have no doubt noted that we believe complex objectives often require more than one long and ungainly sentence. Further, the construction of well-written objectives requires very knowledgeable persons in the content area. And lastly, well-written objectives can help faculty communicate about courses with regard to sharing activities and tests even when one person is much more knowledgeable than the other.

TECHNICAL WRITING CONSIDERATIONS TO REDUCE AMBIGUITY

We call our process of writing objectives lucidly, clearly, and unambiguously: technical writing. This process of writing is, obviously, more than simply putting Mager's

published elements together.[27 & 28] The following ten considerations receive a primary focus from us when we peruse the drafts constructed by faculty. This perusal is a very personal act that we don't share with anyone else but the writer as our only role is to enable that writer to produce the finest technical document possible. Our commentary is returned to that writer for further consideration in the next draft.

The ten primary considerations are:

1. "the"

We watch for the indiscriminate use of the word "the". "The" is the absolute article and should only be used absolutely. An example of its indiscriminate use is as follows: "The student will list the five marketing rules of international trade." Since there is no agreement on the exact number of "marketing rules" in international trade, the objective is poorly stated. The objective would be better stated: "The student will list at least five marketing rules of international trade." If unacceptable rules are being submitted by students, one should construct a more definitive criterion.

2. No content description

Some objectives are stated with all three elements

according to Mager but no content is defined. This would be such a statement: "Using the algorithm given in class, the student will solve at least ten arithmetic word problems." This single statement is so broad that it fits every operation in whole numbers, common fractions, decimal fractions, percentages, and so on. Definitive guidelines for how much content is needed in an objective is sorely lacking in Instructional Development literature. To meet this challenge, we ask faculty to estimate the length of time it takes a student to master the objective. The objective then becomes one of the four levels we described back on pp. 16-17.

3. <u>"explain" by "describing" and vice versa</u>

At times there are statements where a perfectly fine action verb is used in the task statement and a different perfectly fine action verb is used in the criterion statement. Such a statement might look like this: "The student will <u>describe</u> mitosis. To be rated as acceptable, the student must <u>explain</u> at least five steps in the process." This writer has equated the term "describing" with the term "explaining" and the reader is not really sure of the intent. "Describing" is telling about in detail or taking a mental image or impression and verbalizing it, while "explaining" is defining and

making something plain or comprehensible. The loose use of words like this is very confusing to faculty and students.

4. Low level tasks with high level criteria

Sometimes the task statement is simple and straightforward but the criterion statement is strung out with high level expectations which go well beyond the task statement. Such a statement might look like this: "The student will identify at least three reasons society is more mobile today. To be rated as acceptable, the student must analyze at least five transportation modes from 1800 to present day, compare at least five different modes (each with each other), and evaluate the effects of pollution with at least five different modes." The criteria goes well beyond simply "identifying at least three reasons." A higher level task statement should be written in this objective if that is the intent. The objective might be better written as: "The student will analyze geographical social mobility in the United States from 1800 to 1970. To be rated as acceptable, the analysis must state at least five transportation modes from 1800 to 1970 that affected people moving from one home to another, compare each mode with each other and with a set of at least four independent

variables (cost, distance, etc.), and state at least one pollutant effect with each mode."

5. "at least"

The use of a phrase like "at least" makes it clear that the objective is only reflecting a minimum level. Without that phrase, the student is technically required to meet the exact number stated. A statement with such an unwarranted absolute number might be: "The student will state two reasons for hockey." Should the student state "three," the student has not met the stated objective.

6. "be able to"

The use of the phrase "be able to" adds nothing to the construction of objectives and, even worse, it is not even technically measurable. The following is an example of a statement with that useless and technically inaccurate phrase: "The student will be able to recite the poem: Invictus." Better stated, this objective would be: "The student will recite the poem: Invictus."

7. Undefined modifiers

Sometimes subjective words like "major," "important," "basic," or "principle" are used when they don't have an exact meaning. An example might be: "The student will state at least two major reasons for population

explosion." The instructor probably knows which ones are "major" but the "majorness" is really a subjective notion of the instructor and not an objective notion. Once in a while, there is agreement on these modifiers such as the following example: "The student will name the five Great Lakes." Close attention should be addressed to objective statements with potentially undefined modifiers.

8. Task relationship to criteria

Occasionally, statements are submitted where the task is well-stated but the criteria is not related to the task. This is really an extension of our third technical writing consideration except that the problem is more complex. An example of this might be: "The student will explain Einstein's Theory of Relativity. To be rated as acceptable, the student must include a biography of Einstein and a comparison of Fermi's work on the first Atomic Bomb with the theory." The criteria had nothing to do with "explaining Einstein's Theory." The criteria should directly relate to the task. Occasionally, non-related criteria is included but this should only occur when the direct task criteria is clearly explicated.

9. Level of specificity

Sometimes the statements appear to be well-written but

a closer analysis reveals a single activity or, at the other extreme, an unlimited number of activities and measurements. The unlimited statement might look like this: "The student will define any word." The other extreme might be: "Using a Bunsen Burner and flask, the student will boil water." Neither extreme is very useful when constructing a course. The estimation of the time it takes for student mastery helps faculty to re-evaluate statements like this. If a faculty member is still having problems, we request the construction of a test that will measure the intended mastery. The test questions often help in restating the objective at a more useful level of specificity for course development.

10. Condition(s) relative to task

It has been our experience that conditions sometimes unnecessarily restrict task statements. Most of the objectives we receive have no truly unique conditions and we don't force them into statements just to have three parts. An example might be: "While participating in a small group, the student will state at least three ideas related to Flanders Interaction Analysis." The "participation in the small group" has little to do with whether or not the student can state the intended ideas so the phrase ought to be omitted. We find the

unnecessary conditions restrict faculty in teaching methodologies. We strive, with every objective, to have every statement measurable without restricting the plethora of teaching and learning styles that seem to be effective for the individuals who use them.

COMMUNITY COLLEGE OF PHILADELPHIA TODAY

During the past year, over thirty of our courses have been developed using this model. We recognize that it might be years before over fifty per cent of our courses are developed using our model and requirements. The process could be speeded up if other institutions adopted a similar model and shared their work with us. We are willing to share our work, with the approval of our course writers. We encourage sharing within, and outside, the institution.

Constructing courses in this way is rigorous but faculty members are pleased with the rewards of having: 1, courses stated in terms of student outcomes; 2, courses completely developed before a semester begins; 3, courses which permit a variety of teaching strategies; and 4, more time to focus on facilitating student learning. Furthermore, faculty members welcome courses which clearly and concisely state the instructional intent to colleagues, students, and accrediting agencies. Also welcomed are courses where the final course grades of students are more easily justified.

SUCCESSFUL COURSE REVISION AT COMMUNITY COLLEGE OF PHILADELPHIA

Although we feel we have been successful in our efforts to date, we fully realize that we have "miles to go before we sleep, miles to go before we sleep."

BIBLIOGRAPHY

1. Community College of Philadelphia. Handbook for Educational Planning As It Relates to New Course Development at the Community College of Philadelphia. 1978.

2. National Film Board of Canada. The Invention of the Adolescent. Northfield, Ill.: Perennial Education, Inc., 1969.

3. Kinghorn, Jon R. and Benham, Barbara. The We-Agree Workshop. Dayton, O.: Institute for Development of Educational Activities (I/D/E/A), 1973, pp. 9-10.

4. Berquist, William H. and Phillips, Steven R. A Handbook for Faculty Development. Washington, D.C.: Council for the Advancement of Small Colleges, 1975.

5. Lortie, Dan C. Schoolteacher: A Sociological Study. Chicago: The University of Chicago Press, 1975, pp. 61-81.

6. U. S. Bureau of the Census. Statistical Abstract of the United States: 1977. (98th edition) Washington, D.C.: 1977, p. 154, no. 251.

7. Adler, Mortimer J., ed. "Education." Great Books of the Western World - The Great Ideas: I. Chicago: Encyclopedia Britannica, Inc., 1952, p 377b.

8. U. S. Bureau of the Census. op. cit., p. 141, no. 227.

9. U. S. Bureau of the Census. op. cit., p. 407, no. 661.

10. Sheehy, Gail. Passages. New York: Dutton, 1976.

11. Dyer, Wayne W. Your Erroneous Zones. New York: Funk and Wagnalls, 1976.

12. Bloom, Benjamin S., et al., eds. A Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain. New York: David McKay Co., Inc., 1956.

13. Krathwohl, David R.; Bloom, Benjamin S.; and Masia, Bertram B. A Taxonomy of Educational Objectives, Handbook II: The Affective Domain. New York: David McKay Co., Inc., 1964.

14. Simpson, Elizabeth J. The Classification of Educational Objectives, Psychomotor Domain. Champaign, Ill: University of Illinois, 1966.

15. Gronlund, Norman E. Stating Behavioral Objectives for Classroom Instruction. New York: MacMillan Publishing Co., Inc., 1970.

16. Drumheller, Sidney J. Handbook of Curriculum Design for Individualized Instruction: A Systems Approach. Englewood Cliffs, N.J.: Educational Technology Publications, 1971.

17. Mager, Robert F. Preparing Instructional Objectives. Belmont, Calif.: Fearon Publishers, Inc., 1962 & 1975.

18. Cohen, Arthur M. Objectives for College Courses. Beverly Hills, Calif.: Glencoe Press, 1970.

19. Diamond, Robert M., et al. Instructional Development for Individualized Learning in Higher Education. Englewood Cliffs, N.J.: Educational Technology Publications, 1975.

20. Berquist and Phillips. op. cit.

21. Davis, Robert H.; Alexander, Lawrence T.; and Yelon, Stephen L. Learning System Design: An Approach to the Improvement of Instruction. New York: McGraw Hill, 1974.

22. McBeath, Ron J., et al. Faculty Self-Appraisal and Development Materials. San Jose, Calif.: San Jose State University, 1976.

23. Pascal, Charles E., et al. Teaching and Learning: An Individualized Course for Instructors in Higher Learning. Montreal: McGill University, 1977.

24. Cronbach, Lee J. and Snow, Richard R. Aptitudes and Instructional Methods. New York: Irvington Press, Inc., 1977.

25. Lortie. op. cit., p. 133

26. Harmes, Harold M. Behavioral Analysis of Learning Objectives. West Palm Beach, Fla.: Harmes & Associates, 1969, pp. 8-9.

27. Mager, Robert F. Measuring Instructional Intent. Belmont, Calif.: Fearon Publishers, Inc., 1973.

28. Dillman, Caroline M. and Rahmlow, Harold F. Writing Instructional Objectives. Belmont, Calif.: Fearon Publishers, Inc., 1972.

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